

BP_SO_11.3

Interconnector

Emergency Action

Business Process

01/07/2024 - Version 3

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1. Assumptions

Assumptions made during the design of this process include:

- This is an all-island business process, meaning the same process will be used across both jurisdictions on the island, Ireland and Northern Ireland. It can be conducted by the relevant team in either Dublin or Belfast;
- The following business process addresses all requirements, including roles, tools, and activities that will enable the TSO to achieve its objectives;
- All required systems, including EDIL, MMS and ICMP are in place. They offer all required functionalities to support business needs; and
- System security issues identified ahead of real time should be managed through the routine scheduling and dispatch process and resolved ahead of real time to reduce the dependency on cross-zonal actions.

2. Process references

2.1. Related rules references

The following table provides references to the documents that govern the design of this business process for any of the SEM-GB interconnectors (Moyle, EWIC and Greenlink).

Document Title	Description
Interconnector Operating Protocol	The protocol operates as a common point of reference for the interconnector owner, EirGrid/SONI and NGEESO in relation to the operation of the Interconnector, covering the following areas; outage planning, day ahead user data and transfer programme agreement, real time operation and post event review and general management.
Balancing and Ancillary Services Agreement	The agreement details the provision of commercial ancillary services across the Interconnector including cross border balancing and emergency assistance prices.

2.2. Related documents

Document Title	Relationship	Description
BP_SO_11.2 CBB Trading between EirGrid / SONI and National Grid Electricity Transmission plc (NGESO)	Related Process	This process covers cross-border balancing trades to alter physical interconnector flows and trades initiated following a high or low frequency event that resulted in an automatic change to the interconnector reference program.
BP_SO_13.3 Real Time Net Transfer Capacity Reduction	Output of this Process	If an Emergency Action or Emergency Instruction is initiated a reduction in net transfer capacity is required which triggers this process.
Methodology for determining System Operator and Non-Marginal Flags	Information	Describes the methodology on how actions are flagged for the purpose of imbalance pricing.
Balancing Market Principles Statement	Information	Public guide to the scheduling and dispatch process.

3. Process context

3.1. Business model relationship

The 'Trading' process group details the mechanisms available to EirGrid, SONI and National Grid Electricity Transmission plc (NGESO) to exchange energy across any of the SEM-GB interconnectors. The arrangements are similar for all these interconnectors in accordance with the operating agreements between the Interconnector Owners and TSOs, and any differences are captured in the relevant process steps.

Cross-zonal actions used close to real time (less than two and a half hours before delivery) allow the TSOs to exchange energy across the interconnectors. In emergency circumstances, the physical flow on the interconnectors can be varied by Emergency Assistance or reduced towards zero by an Emergency Instruction. Settlement of these services is outside the scope of this group.

3.2. Background and scope

Background

There are a number of services or actions collectively referred to as Cross-Zonal Actions available to EirGrid/SONI and NGESO to exchange flows across any of the SEM-GB interconnectors, including:

- Coordinated Third-Party Trading (CTPT)
- Cross Border Balancing (CBB)
- Emergency Assistance (EA)
- Emergency Instruction (EI)
- Frequency services

EirGrid and SONI may need to alter the Interconnector Reference Program (ICRP) calculated based on ex Ante Market auction results to maintain system security. Similarly, NGESO may also request a change to the ICRP. Section 3.4.6 of the Balancing Market Principles Statement summarises the key cross-zonal actions available on the interconnectors.

Scope

This process covers two of the Cross-Zonal Actions available to EirGrid/SONI and NGEESO: Emergency Assistance (EA) and Emergency Instruction (EI).

Emergency Assistance: Emergency Assistance (EA) is seen as an effective increase or decrease in active energy into the requesting TSO transmission system. It is required in extreme cases when one of the parties foresees a difficulty in meeting the expected demand on its system or foresees a difficulty in maintaining security of its transmission system. EA will be assumed available for each TSO to instruct unless specifically withdrawn or a system warning has been issued. Any available EA volume is capped by the NTC.

Such a request should be accepted once the provision of this service does not result in a difficulty in meeting the expected demand on its own system or a difficulty in maintaining security on its own transmission system. The EA service will only be withdrawn for reasons of safety (people or plant) or system security (except for reducing our replacement reserves if reasonable.) When entering an EA in the Interconnector Management Platform (ICMP) the 'emergency action' reason code should be used, and the only appropriate rejection code that can be used is 'system security'.

A minimum of 2 minutes' notice to the start of EA delivery should be given and any trade will use the normal operating ramp rate.

Emergency Instruction: In the event that EirGrid / SONI or NGEESO experience a problem on their system that may have a safety or system security implication it may be necessary to reduce the transfer on the interconnector. The transfer change will at most be to 0 MW (no change in transfer direction permitted) and this is referred to as an Emergency Instruction (EI). If EirGrid / SONI initiate an EI they will endeavour to contact NGEESO prior to the reduction in the interconnector flow or as soon as practical after the event. If instructed by NGEESO it must be carried out without delay by EirGrid / SONI. A Significant Incident Report should be issued by the initiating TSO in accordance with the Interconnector Operating Protocol. A reduction in the Net Transfer Capacity (NTC) should be entered into ICMP by the initiating TSO in accordance with that business process.

All EA and EI trades should be entered in ICMP within 30 minutes of the start of trade delivery, where possible, to ensure emergency actions are appropriately included in the imbalance pricing in the Market Management System (MMS).

4. Process objective

The objective of this business process is to meet the obligations under the Interconnector Operating Protocol relating to Emergency Assistance and Emergency Instruction.

5. Roles and responsibilities

5.1. NCC/CHCC

The following table provides a summary of the obligations of NCC/CHCC relating to Interconnector Emergency Actions:

Team Name	Responsibility in relation to process	Timeline Associated
NCC/CHCC (Process Owner)	Identifying any need for emergency assistance or emergency instruction on any of the SEM-GB interconnectors, reviewing and accepting / rejecting any requests from NGESO for these services and implementing them in accordance with the Interconnector Operating Protocols. NCC/CHCC also has a responsibility to capture these actions in the relevant systems within 30 minutes, where possible, to ensure they feed in to imbalance pricing.	As required. All information should be captured within 30 minutes, where possible, of delivery start for the purpose of the imbalance price calculation.

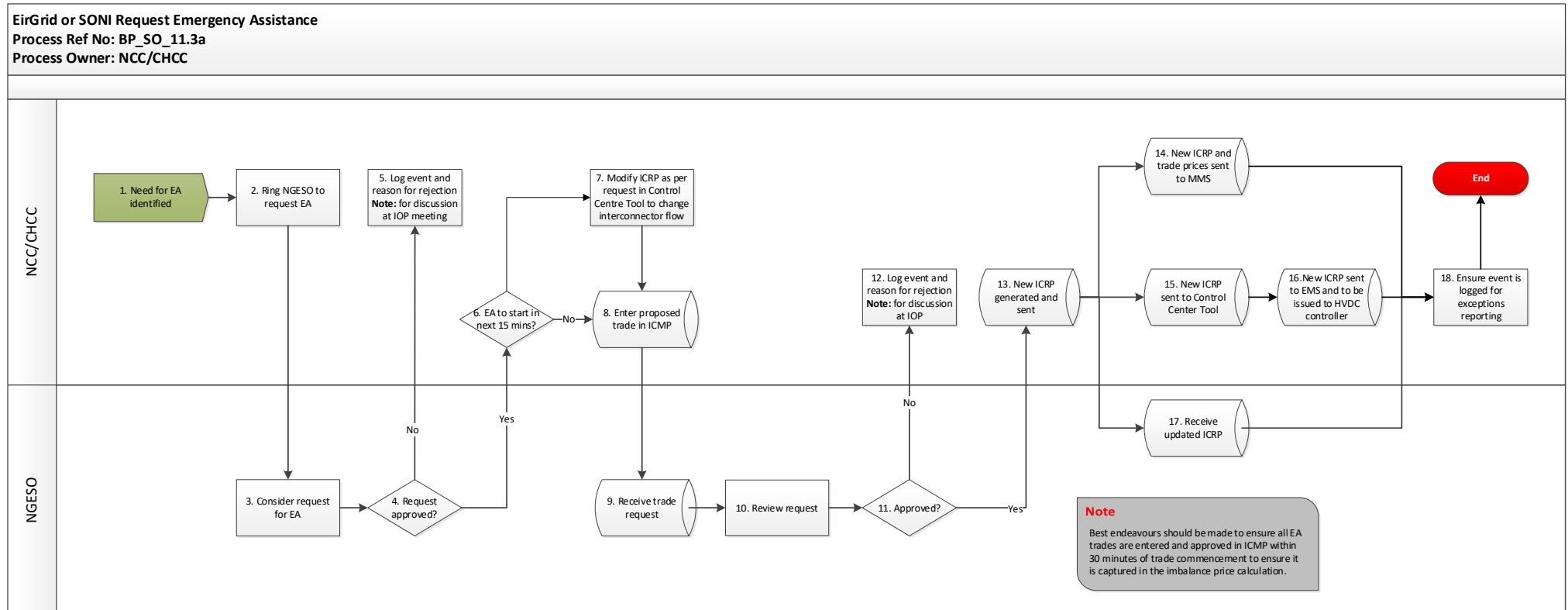
5.2. National Grid Electricity System Operator

The following table provides a summary of the obligations of National Grid Electricity System Operator (NGESO) relating to Interconnector Emergency Actions:

Team Name	Responsibility in relation to process	Timeline Associated
NGESO	Identify any need for emergency assistance or emergency instruction on any of the SEM-GB interconnectors, reviewing and accepting / rejecting any requests from EirGrid or SONI for emergency assistance or emergency instruction in accordance with the Interconnector Operating Protocols.	As required

6. Process description

6.1. Process map - EirGrid or SONI request emergency assistance



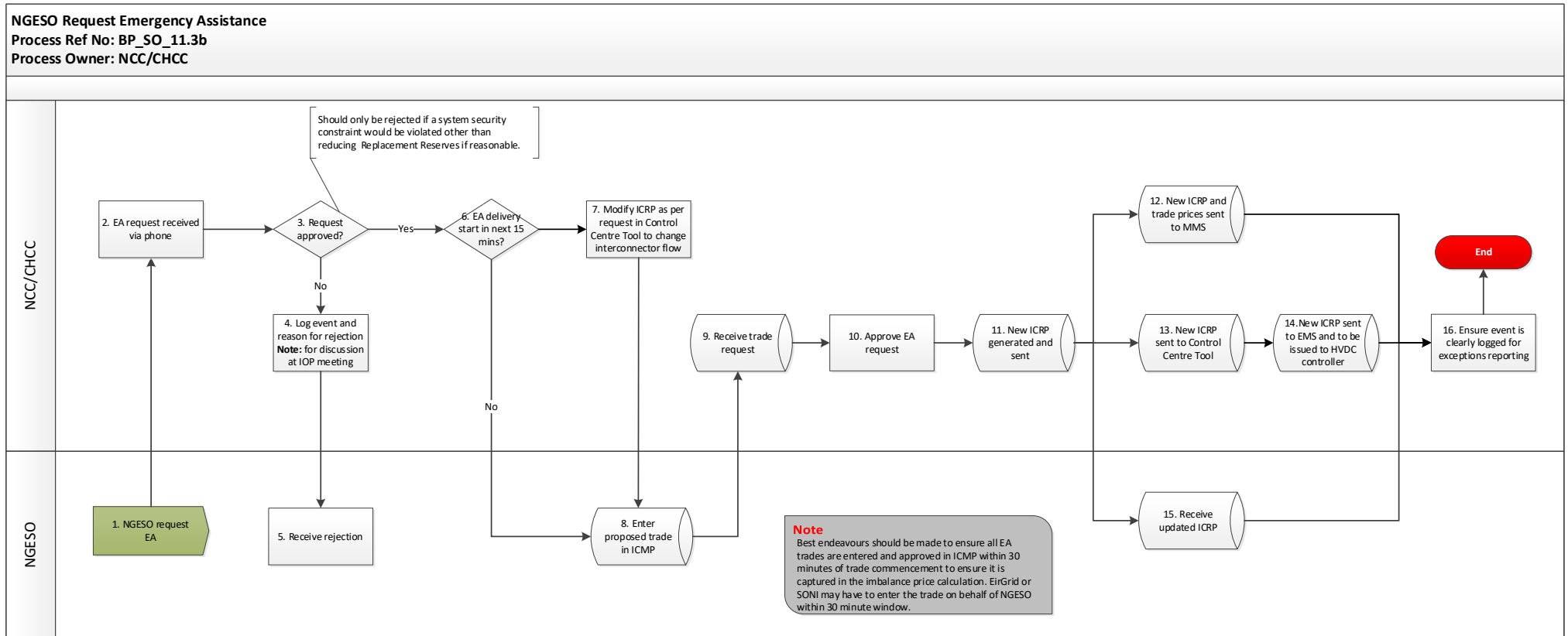
6.2. Process steps - EirGrid or SONI request emergency assistance

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Need for EA identified	This is the trigger to this process.	NCC/CHCC	Decision	As required	N/A
2	Ring NGESO to request EA	Request for EA should be made via phone to NGESO.	NCC/CHCC	Phone Call	As required	N/A
3	Consider request for EA	Consider if EA can be provided.	NGESO	N/A	As required	N/A
4	Request approved?	If the request for emergency assistance approved? If no, go to Step 5. If yes, go to Step 6.	NGESO	Decision	As required	N/A
5	Log event and reason for rejection	Following rejection of EA request the event should be logged including reason for rejection. Note: for discussion at next Interconnector Operating Protocol meeting. No further steps are required.	NCC/CHCC	Log entry	As required	All-Island Control Centre Log
6	EA to start in next 15 minutes?	Is the delivery of the EA required to start within 15 minutes? If yes, go to step 7. If no, go to step 8. Note: even if 15 minutes notice has been provided until start of delivery it may not be possible to complete step 8 in advance. In this instance proceed directly to Step 7.	NCC/CHCC	Decision	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
7	Modify ICRP as per request to change interconnector flow	Modify the ICRP as per request to NGESO to change interconnector flow to required output for the agreed start time.	NCC/CHCC	Updated ICRP	As required	Control Centre Tool
8	Enter proposed trade in ICMP	Enter the proposed trade in ICMP using the reason code 'Emergency Action' and send to NGESO. Note: If the trade is entered ex-post best endeavours should be made to ensure all EA trades are entered and approved in ICMP within 30 minutes of trade commencement to ensure it is captured in the imbalance price calculation.	System step	Proposed trade	As required	ICMP
9	Receive trade request	Receive trade request.	NGESO	Trade request	As required	ICMP (or NGESO's equivalent system)
10	Review request	Consider proposed trade request for EA.	NGESO	N/A	As required	ICMP (or NGESO's equivalent system)
11	Approved?	Is the proposed trade request approved? If no, proceed to Step 12. If yes, proceed to Step 13.	NGESO	Decision	As required	ICMP (or NGESO's equivalent system)
12	Log event and reason for rejection	Following rejection of EA request the event should be logged including reason for rejection. Note: for discussion at next Interconnector Operating Protocol meeting. No further steps are required.	NCC/CHCC	Log entry	As required	All-Island Control Centre Log
13	New ICRP generated and sent	Following approval of trade by NGESO, a new ICRP is automatically generated and sent.	System step	New ICRP	AS required	ICMP
14	New ICRP and trade prices sent to MMS	New ICRP and trade prices sent to MMS for inclusion in scheduling, imbalance pricing & reporting.	System step	New ICRP	As required.	MMS

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
15	New ICRP sent to Control Centre Tool	New ICRP sent to Control Centre Tool for control of the interconnector.	System step	New ICRP	As required.	Control Centre Tool
16	New ICRP sent to EMS and to be issued to HVDC controller	New ICRP sent to EMS and to be issued to HVDC controller	System step	New ICRP	As required	EMS
17	Receive updated ICRP	New ICRP sent to NGESO for information.	System step	New ICRP	As required.	ICMP (or NGESO's equivalent system)
18	Ensure event is logged for exceptions reporting	Ensure the event is logged for exceptions reporting.	NCC/CHCC	Log entry	As required	All-island Control Centre Log

6.3. Process map - NGESO requests Emergency Assistance



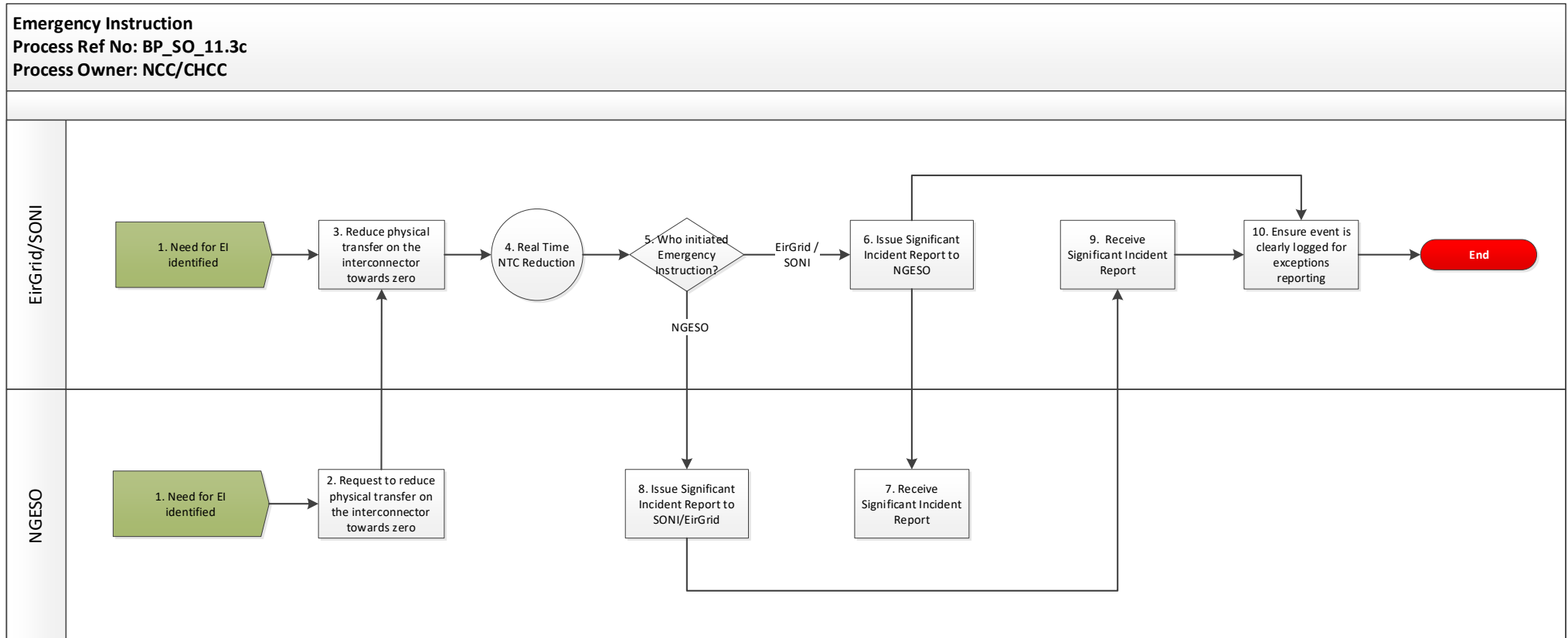
6.4. Process steps - NGESO request Emergency Assistance

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/Frequency	System
1	NGESO request EA	This is the trigger to this process.	NGESO	Decision	As required	N/A
2	EA request received via phone	Request for EA should be received via phone to EirGrid or SONI.	NGESO	Phone Call	As required	Phone
3	Request approved?	Is the request for emergency assistance approved? If no, go to Step 4. If yes, go to Step 6.	NGESO	Decision	As required	N/A
4	Log event and reason for rejection	Following rejection of EA request the event should be logged including reason for rejection. Note: for discussion at next Interconnector Operating Protocol meeting. Should only be rejected if a system security constraint would be violated other than reducing Replacement Reserves if reasonable.	NCC/CHCC	Log entry	As required	All-Island Control Centre Log
5	Receive rejection	EA request has been rejected.	NGESO	EA rejection	As required	N/A
6	EA to start in next 15 minutes?	Is the delivery of the EA required to start within 15 minutes? If yes, go to step 7. If no, go to step 8. Note: even if 15 minutes notice has been provided until start of delivery it may not be possible to complete step 8 in advance. In this instance proceed directly to Step 7.	NCC/CHCC	Decision	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/Frequency	System
7	Modify ICRP as per request to change interconnector flow	Modify the ICRP as per NGESO's to change interconnector flow to required output for the agreed start time.	NCC/CHCC	Updated ICRP	As required	Control Centre Tool
8	Enter proposed trade in ICMP	Enter the proposed trade in ICMP using the reason code 'Emergency Action' and send to NCC/CHCC. Note: If the trade is entered ex-post best endeavours should be made to ensure all EA trades are entered and approved in ICMP within 30 minutes of trade commencement to ensure it is captured in the imbalance price calculation.	NGESO	Proposed trade	As required	ICMP (or NGESO's equivalent system)
9	Receive trade request	Receive trade request.	NCC/CHCC	Trade request	As required	ICMP
10	Approve EA request	Approve EA request.	NCC/CHCC	Approval	As required	ICMP
11	New ICRP generated and sent	Following approval by NCC/CHCC, a new ICRP is automatically generated and sent.	System step	New ICRP	AS required	ICMP
12	New ICRP and trade prices sent to MMS	New ICRP and trade prices sent to MMS for inclusion in scheduling, imbalance pricing & reporting.	System step	New ICRP	As required.	MMS
13	New ICRP sent to Control Centre Tool	New ICRP sent to Control Centre Tool for control of the interconnector.	System step	New ICRP	As required.	Control Centre Tool
14	New ICRP sent to EMS and to be issued to HVDC controller	New ICRP sent to EMS and to be issued to HVDC controller	System step	New ICRP	As required	EMS
15	Receive updated ICRP	New ICRP sent to NGESO for information.	System step	New ICRP	As required.	ICMP (or NGESO's equivalent system)

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/Frequency	System
16	Ensure event is logged for exceptions reporting	Ensure the event is logged for exceptions reporting.	NCC/CHCC	Log entry	As required	All-island Control Centre Log

6.5. Process map - Emergency Instruction



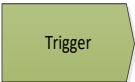

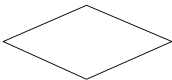




6.6. Process steps - Emergency Instruction

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
1	Need for EI identified	NGESO or NCC/CHCC may request an Emergency Instruction which will trigger this process. If NGESO triggers this process, go to Step 2. If NCC/CHCC triggers this process, go to Step 3.	NGESO or NCC/CHCC	Decision	As required	N/A
2	Request to reduce physical transfer on the interconnector towards zero	Request to reduce physical transfer on the interconnector towards zero. As per Interconnector Operating Protocol, NGESO will start the call with, "This is an Emergency Instruction...."	NGESO	Phone Call	As required	Phone
3	Reduce physical transfer on the interconnector towards zero	Without delay, NCC/CHCC should reduce the physical transfer on the interconnector towards zero as per request.	NCC/CHCC	N/A	As soon as possible	EMS
4	Real Time NTC Reduction	This step triggers the Real Time NTC reduction business process.	NCC/CHCC	Business process trigger	As required	ICMP
5	Who initiated Emergency Instruction?	Who initiated Emergency Instruction? If NCC/CHCC initiated the EI, go to Step 6. If NGESO initiated the EI, go to Step 8.	NCC/CHCC	Decision	As required	N/A
6	Issue Significant Incident Report to NGESO	Prepare and issue a SIR as soon as practical but within 2 hours (as in GB Grid Code OC10.4.1.4).	NCC/CHCC	SIR	Within 2 hours of process trigger	Email
7	Receive Significant Incident Report	Receive SIR sent by NCC/CHCC. Go to step 10.	NGESO	SIR	As required	N/A

#	Step	Step Description	Responsible Role	Outputs	Indicative Timing/ Frequency	System
8	Issue Significant Incident Report to NCC/CHCC	Prepare and issue a SIR as soon as practical but within 2 hours (as in GB Grid Code OC10.4.1.4)	NGESO	SIR	Within 2 hours of process trigger	email
9	Receive Significant Incident Report	Receive SIR sent by NGESO.	NCC/CHCC	SIR	As required.	N/A
10	Ensure event is logged for exceptions reporting	Ensure the event is logged for exceptions.	NCC/CHCC	Log entry	As required	All-island Control Centre Log

7. Appendices

7.1. Process flowchart key

FLOWCHART KEY	
	Trigger
	Process step
	Process decision / question
	Reference to another process
	Another business process to be implemented following current step (current step is a trigger for another process)
	Process end
	System (automatic step)